Remarks

Applicant has addressed each issue in turn and, for clarity, has provided a heading for each issue.

I. Claim Rejections – 35 U.S.C. § 103

In the Office Action the Examiner rejected claims 1-3, 6-16, 18-30 and 34-82 under 35 U.S.C. § 103(a) as being obvious over Buechel *et al.* (United States Patent No. 5,702,448) in view of Frushour (United States Patent No. 5,011,515). Applicants respectfully traverse the § 103 rejection as a prima facie case of obviousness has not been established.

A. No Motivation to Combine References

Applicants submit that the Examiner has not established a prima facie case of obviousness as the prior art as a whole lacks a suggestion to combine the above listed references. The Examiner states that "[t]he motivation to use Frushour's teaching to form a high impact and abrasion resistant device is that hip joints require great resistance to wear..." Office Action, p. 3. However, there is nothing in the prosthetic joint field that suggests that someone of ordinary skill in the art look to the rock drilling field. Frushour is limited to the formation of high impact and abrasion resistant devices for rock drill cutters, not prosthetic joints, and is therefore, a non-analogous field of art. This combination of references from non-analogous fields, is not supported. In order to establish a prima facie case of obviousness, there must be a teaching in the prosthetic joint field that one should look to the rock drilling field. There is no such reference in the prosthetic joint field. Therefore, the references should not be combined and a prima facie case of obviousness has not been established.

B. Inherency Does Not Equal Knowledge When Unsupported by Prior Art

Applicants submit that the Examiner has not established a prima facie case of obviousness as inherency does not equal knowledge, and therefore may not be used to establish an obviousness type rejection when there is no supporting teaching in the prior art. *In re Spormann*, 363 F.2d 444 (C.C.P.A. 1966) (copy attached). The Examiner states in viewing Buechel *et al.* that "[i]t is inherent that the materials have CTEs and moduli that are different since the substrate and coating are different." Office Action, pp. 2-3. Applicants respectfully submit, however, that regardless of whether a material's CTE or modulus is inherent as a principle of physics, using materials of different CTEs or moduli to cause a diamond table to better bond to a substrate in a sintering process (such as by creation of residual stresses in the sintered prosthetic hip) was not known prior to Applicants' invention.

At the conclusion of the sintering process in the Applicants' invention, the differences in CTEs and moduli between the diamond layer and the substrate result in the creation of residual stresses between these two materials as pressure and temperature are decreased. The residual stresses result in an enhanced grip between the diamond and the substrate. This is in addition to the chemical grip between the diamond and the substrate as a result of the diamond to metal chemical bonds. This enhanced grip is also in addition to any mechanical interlocking of the diamond table to the substrate as a result of topographical features on the substrate. Vapor deposition as taught by Buechel *et al.* does not result in the creation of residual stresses and enhanced grip, as sintering does not occur. Therefore Buechel *et al.* does not take advantage of the differences in CTE and modulus to create a stronger prosthetic hip product.

Further, the Examiner states that "[i]t is also inherent that some sp^3 bonds are formed in the coating process, [which is] well know in the art, i.e. sintering." Office Action, p. 3.

Applicants assert that inherency of sp^3 bonds in sintering is not material because Buechel *et al.* does not teach sintering and reference to Applicants' invention, i.e. a sintered prosthetic hip component, cannot be used to establish obviousness. Regardless of whether the formation of sp^3 bonds is inherent in Applicants' prosthetic hip, using sp^3 bonds in combination with the limitations of the claimed invention, such as a sintered prosthetic hip with residual stresses, was not known in the field of prosthetic joints prior to Applicants' invention.

C. The Combination of References Does Not Yield the Claimed Invention

Even if a prima facie case of obviousness was established allowing for the combination of Buechel et al. and Frushour, this combination does not result in teaching the claimed invention. Limitations found in the Applicants' invention but not taught by a combination of Buechel *et al.* and Frushour (which Applicants assert is important in any event) does not yield the following limitations recited in the Applicants' claims:

1. Residual stresses between a diamond table and a substrate.
2. Enhanced grip by use of residual stresses.
3. Diamond table sintered to a substrate in a prosthetic hip.
4. A gradient transition zone between the diamond and the substrate.

These are a few of the limitations found in Applicants' claims which are not taught by the cited references. Other novel limitations are also found in the claims.

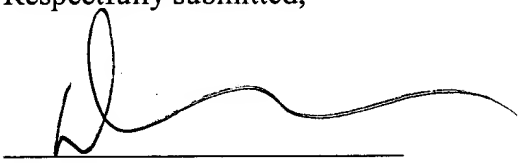
II. Conclusion

In view of the foregoing, and in summary, Applicants respectfully request that the Examiner withdraw the § 103 rejection as a prima facie case of obviousness has not been established. Applicants believe that all issues and points of the Examiner's Office Action have been addressed in a sincere effort to advance prosecution of this Application. Applicants request reconsideration and allowance of the pending claims.

Please debit Deposit Account No. 50-0581 for any additional fees.

Dated this 19 day of March, 2004.

Respectfully submitted,



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